

10/507236

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
2 October 2003 (02.10.2003)

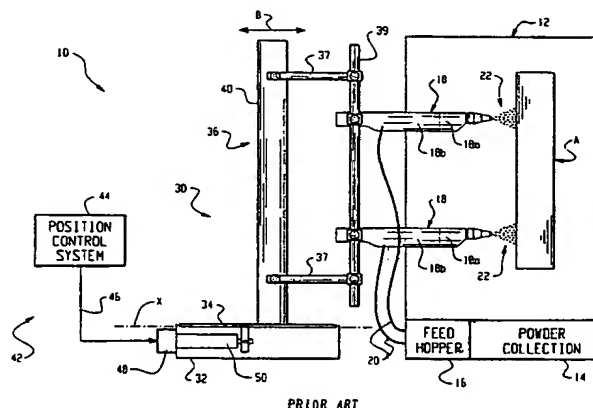
PCT

(10) International Publication Number
WO 03/080254 A2

- (51) International Patent Classification⁷: **B05B**
- (21) International Application Number: PCT/US03/08578
- (22) International Filing Date: 20 March 2003 (20.03.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/366,205 21 March 2002 (21.03.2002) US
- (71) Applicant (*for all designated States except US*): **NORDSON CORPORATION** [US/US]; 28601 Clemens Road, Westlake, OH 44145 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): **SCHROEDER, Joseph, G.** [US/US]; 11988 Firefly Drive, North Royalton, OH 44133 (US). **MATHER, Brian, D.** [US/US]; 27396 Nantucket Drive, North Olmsted, Ohio 44070 (US). **SHUTIC, Jeffrey, R.** [US/US]; 11809 Clary Road, Wakeman, OH 44889 (US). **GACKA, Mark** [US/US]; 1464 Lewis Drive, Lakewood, OH 44107 (US).
- (74) Agent: **LEWIS, Leonard, L.**; Calfee, Halter & Griswold LLP, 1400 McDonald Investment Center, 800 Superior Avenue, Cleveland, OH 44114 (US).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Declaration under Rule 4.17:**
— of inventorship (Rule 4.17(iv)) *for US only*
- Published:**
— without international search report and to be republished upon receipt of that report

[Continued on next page]

(54) Title: SPRAY GUN CLEANING ARRANGEMENTS



(57) **Abstract:** Apparatus and methods are provided for removing powder overspray from the exterior surfaces within a spray booth, especially the exterior surfaces of a spray gun assembly. These surfaces may include the spray gun housing and nozzle, a tube mount housing for the tube mount configurations, and in some embodiments the various hoses and lines that are coupled to the spray gun in a bar mount configuration. In one embodiment, powder overspray is removed from such surfaces or other surfaces within the spray booth by applying a cleaning or powder removal agent/article in contact with the surfaces to knock off, wipe, blow or otherwise remove the powder overspray. The cleaning agent/article may take many forms, including but not limited to fluids including air or liquid, negative pressure or suction, charged ions, positive pressure within the spray gun assembly, or any number and variety of cleaning devices such as but not limited to brushes, cloth, sponges, wipers and so on. A number of embodiments are described, including but not limited to the use of vacuum or negative pressure nozzles, negative pressure with a cleaning media, a cryogenic rinse, wiping contact articles such as rags, brushes, sponges or rubber/plastic wipers, oppositely charged particles, and air flow pressurized air from within the spray gun assembly so as to blow off or knock off the powder overspray via a flexible boot or bladder.

BEST AVAILABLE COPY

WO 03/080254 A2